

REMARKS

Reconsideration of this application courteously is solicited.

Initially, Applicants and the undersigned extend their gratitude to Examiner Nguyen for the second interview held in connection with this case on February 24, 2004. The interview is believed to have been very productive in resolving the present issues in this application as raised in Paper No. 12 (mailed November 7, 2003). Independent claims 1, 16, 22 and 33 have been amended based upon the discussions that took place during the interview.

Paper No. 12 rejected claims 1, 10, 14, 16, 19-22, 25-27 and 30 under 35 U.S.C. §103(a) as purportedly obvious over the previously-cited Katsumata, et al., Wessels, et al. and Harada documents, further in view of U.S. Patent 5,744,755 to Gasque, Jr. Claims 4, 6, 17, 24 and 29 similarly were rejected as purportedly obvious over Katsumata, et al., Wessels, et al., Harada, and Gasque, Jr., but also, further in view of U.S. Patent 4,552,989 to Sass. Claims 5, 7 and 18 were rejected as purportedly obvious over Katsumata, et al., Wessels, et al., Harada, Gasque, Jr., and Sass, further in view of Ijff, et al. Claim 8 individually was rejected over the Katsumata, et al., Wessels, et al., Harada, and Gasque, Jr. combination further in view of Martin. Claim 11 was rejected over the foregoing four-document combination further in view of U.S. Patent 5,354,954 to Peterson. Finally, claim 33 was rejected as purportedly unpatentable over only Katsumata, et al. and Gasque, Jr. All of these rejections are treated similarly and traversed in the same way.

During the interview, it was agreed that all of the aforementioned rejections would be overcome by requirements in the rejected independent claims that the wrapping angle of the ribbon-shaped conductor be defined as exceeding 45°. This is documented in the Examiner's Interview Summary (Paper No. 13) prepared at the conclusion of the February 24th interview. Each of independent claims 1, 16, 22 and 33 has been amended to recite the subject wrapping angle as more than 45°. As the Examiner admits, this recitation distinguishes the claims over the contribution of the Gasque, Jr. patent. Because each of the rejections depends upon Gasque, Jr. as a secondary reference, each of the rejections

thus is overcome. Withdrawal of each of the several rejections therefore, courteously is solicited. Independent claims 1, 16, 22 and 33, along with their respective dependent claims, respectfully are submitted as allowable over the various combinations of documents applied in Paper No. 12.

Lastly, Applicants gratefully acknowledge the Examiner's indication of allowance for independent claim 2, along with its dependent claims 9, 12, 13 and 15. Likewise, acknowledgment is made of the indicated allowability in claims 31 and 32.

In view of the foregoing amendments and Remarks, it courteously is urged that all of the claims are allowable and that this application is in condition for allowance. Favorable action in this regard earnestly is solicited.

Respectfully submitted,

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LISTING OF CLAIMS

1. (currently amended) A coaxial element wire, comprising:

a center conductor,

a non-electrically conductive insulation layer, provided around the center conductor, and in contact therewith having a thickness of 0.03mm or more and 0.15 mm or less at a portion of the insulation layer where the thickness is smallest; and

an outer conductor, made by pressing a copper or copper alloy round wire into a flat form, without annealing after pressing, to thereby provide a ribbon-shaped conductor of a virtually rectangular cross-section with its four corners smoothed, and then

helically wrapping said ribbon-shaped conductor around said insulation layer with one long side thereof facing said insulation layer,

wherein a wrapping angle of said ribbon-shaped conductor with respect to an axis of said coaxial element wire is more than 45 degrees ~~or more~~.

2. (previously amended) A coaxial element wire, comprising:

a center conductor,

a non-electrically conductive insulation layer, disposed around said center conductor and in contact therewith, having a thickness of 0.03 mm or more and no greater than 0.15 mm at a portion of the insulation layer where the thickness is smallest, and

an outer conductor, made by:

pressing a copper or copper alloy round wire into a flat form, without annealing after pressing, to thereby provide a ribbon-shaped conductor of a virtually rectangular cross-section with its four corners smoothed, and then

helically wrapping said ribbon-shaped conductor, under a tension of at least 30% of the tensile strength of said ribbon-shaped conductor, around said insulation layer with one long side thereof facing said insulation layer, wherein a wrapping angle of said ribbon-shaped conductor with respect to an axis of said coaxial element wire is 45 degrees or more.

3. cancelled

4. (original) A multicore cable, comprising a plurality of said coaxial element wires according to claim 1 provided in a common outer jacket.

5. (original) The multicore cable according to claim 4, wherein outer conductors of the coaxial element wires are in contact.

6. (original) The multicore cable according to claim 4, wherein the plurality of coaxial element wires are twisted together and provided with a common jacket on the outside.

7. (original) An electronic apparatus including at least one multicore cable according to claim 5, disposed at a position where said multicore cable is subjected to mechanical rotation or bending.

8. (original) The coaxial wire element according to claim 1, wherein the outer, ribbon-shaped conductor is spirally wrapped such that adjacent wrappings of the outer conductor butt against one another.

9. (original) The coaxial wire element according to claim 2, wherein the outer conductor is helically wrapped such that adjacent wrappings of the outer conductor butt against one another.

10. (original) The coaxial wire element according to claim 1, wherein the ribbon-shaped conductor is spirally wrapped in a first direction, and wherein a second ribbon-shaped conductor is spirally wrapped in the first direction.

11. (original) The coaxial wire element according to claim 10, wherein the second ribbon-shaped conductor overlaps the first ribbon-shaped conductor.

12. (original) The coaxial wire element according to claim 2, wherein the first ribbon-shaped conductor is helically wrapped in a first direction and a second ribbon-shaped conductor is helically wrapped in the first direction.

13. (original) The coaxial wire element according to claim 12, wherein the second ribbon-shaped conductor overlaps the first ribbon-shaped conductor.

14. (previously amended) The coaxial wire element according to claim 1, wherein the outer conductor includes the first ribbon-shaped conductor spirally wrapped in a first direction and a second ribbon-shaped conductor spirally wrapped in a second direction opposite the first direction.

15. (original) The coaxial wire element according to claim 2, wherein the ribbon-shaped conductor is helically wrapped in a first direction, and a second ribbon-shaped conductor is helically wrapped in a second direction opposite the first direction.

16. (currently amended) A method of making a coaxial element wire, comprising:
providing a center conductor;
providing a non-electrically conductive insulation layer around the center conductor, wherein the insulation layer has a thickness of 0.15 mm or less;

providing an outer conductor formed by pressing a copper or copper alloy round wire into a flat form, without annealing after pressing, to thereby provide a ribbon-shaped conductor; and

spirally wrapping the ribbon-shaped conductor around the insulation layer with one long side thereof facing said insulation layer, wherein a wrapping angle of said ribbon-shaped conductor with respect to an axis of said coaxial element wire is more than 45 degrees ~~or more~~.

17. (original) The method according to claim 16, further comprising: assembling a plurality of the coaxial element wires in a common jacket to thereby form a multicore cable.

18. (original) The method according to claim 17, wherein outer conductors of the coaxial element wires are in contact.

19. (original) The method according to claim 16, wherein the spirally wrapping includes wrapping a second ribbon-shaped conductor around the insulation layer.

20. (original) The method according to claim 19, wherein the ribbon-shaped conductors are wrapped around the insulation layer in the same direction.

21. (original) The method according to claim 19, wherein the ribbon-shaped conductors are wrapped around the insulation layer in opposite directions.

22. (currently amended) A method of making a coaxial element wire, comprising:

- providing a center conductor;
- providing a non-electrically conductive insulation layer around the center conductor and in contact therewith, wherein a thickness of the insulation layer is 0.03 mm or more and not greater than 0.15 mm at a portion where the thickness is smallest;
- providing an outer conductor formed by pressing a copper or copper alloy round wire into a flat form, without annealing after pressing, to thereby provide a ribbon-shaped conductor of a virtually rectangular cross-section with its four corners smoothed;
- and
- helically wrapping one or a plurality of the ribbon-shaped conductors around the insulation layer with one long side thereof facing the insulation layer, wherein a wrapping angle of the ribbon-shaped conductor with respect to an axis of the coaxial element wire is more than 45 degrees ~~or more~~.

23. cancelled

24. (original) The method according to claim 22, further comprising: assembling a plurality of the coaxial element wires in a common jacket to thereby form a multicore cable.

25. (original) The method according to claim 22, wherein the helically wrapping includes wrapping a second ribbon-shaped conductor around the insulation layer.

26. (original) The method according to claim 25, wherein the ribbon-shaped conductors are wrapped around the insulation layer in the same direction.

27. (original) The method according to claim 25 wherein the ribbon-shaped conductors are wrapped around the insulation layer in opposite directions.

28. cancelled

29. (previously presented) The coaxial wire element according to claim 1, wherein a plurality of said coaxial wire elements are arranged in a common jacket to form a multicore cable.

30. (previously presented) The coaxial wire element according to claim 1, wherein said insulation layer is made of PFA.

31. (previously presented) The method according to claim 16, wherein the ribbon-shaped conductor is spirally wrapped around the insulation layer under a tension of at least 30% of the tensile strength of the conductor.

32. (previously presented) The method according to claim 22, wherein the ribbon-shaped conductor is spirally wrapped around the insulation layer under a tension of at least 30% of the tensile strength of the conductor.

33. (currently amended) A coaxial element wire, comprising:

- a center conductor,
- a non-electrically conductive insulation layer provided around the center conductor and in contact therewith; and
- an outer conductor helically wrapped around said insulation layer at a wrapping angle, with respect to the axial axis of said coaxial element wire, of more than 45 degrees ~~or more~~ with one long side of said outer conductor facing said insulation layer, said outer conductor being a copper or copper alloy wire having a ribbon shape with a virtually rectangular cross-section, and said one long side.